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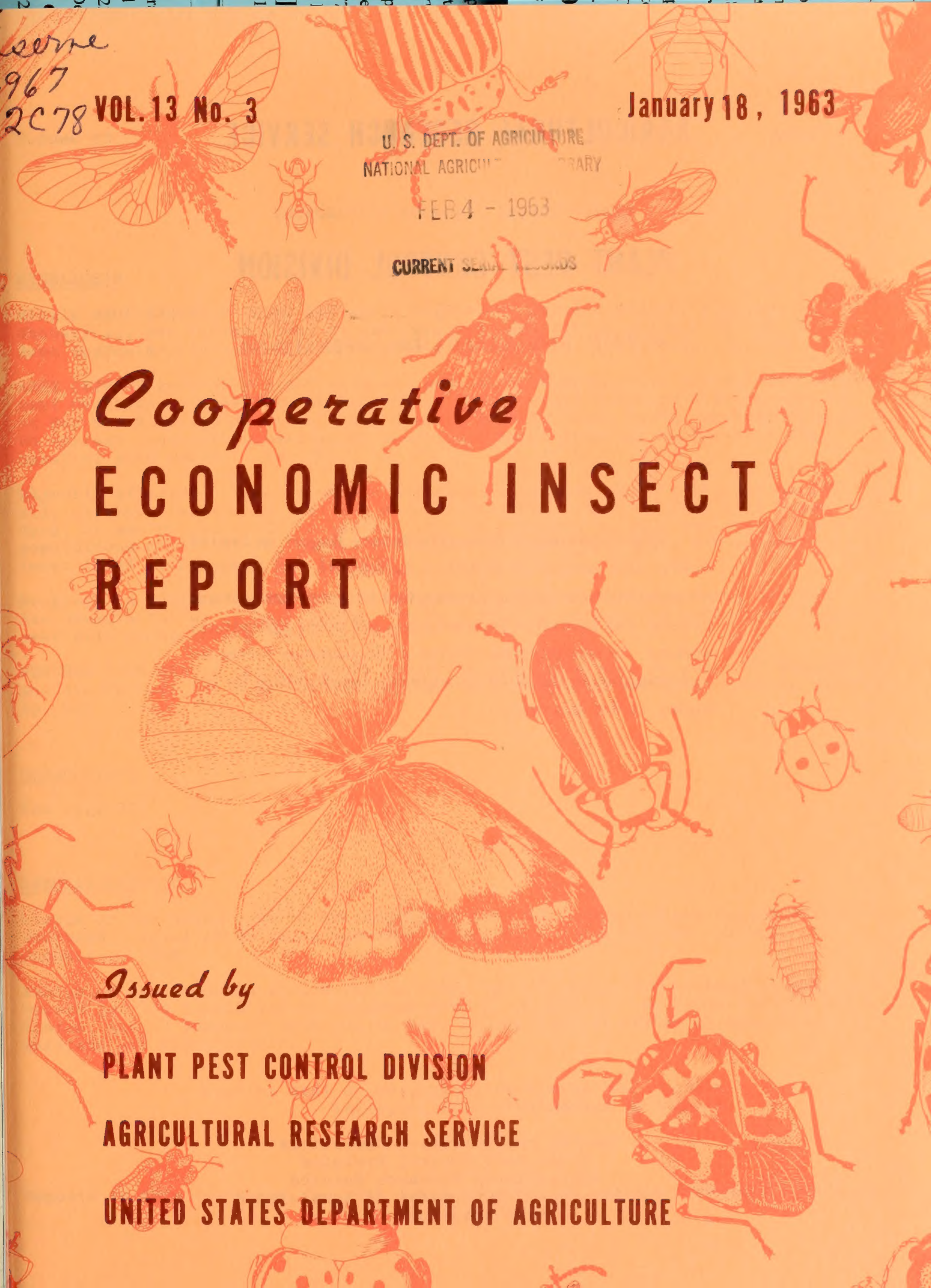

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

Volume 13 January 18, 1963 Number 3

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Single MEDITERRANEAN FRUIT FLY adult trapped in Broward County, Florida, on January 11, and larvae found in same general locality on January 12 and 13. Area approximately 2.5 miles southeast of November 2, 1962 find. (p. 28).

ARMY CUTWORM generally light in small grains throughout north central and northwest Oklahoma, and SPOTTED ALFALFA APHID counts heavy on overwintering alfalfa in Kay and Woodward Counties, same State. Both of these pests numerous enough to warrant constant surveillance; they could cause economic damage with the onset of warm weather. (p. 27).

Majority of citrus trees in groves surveyed in Florida dropped all, or nearly all, of their leaves the last few days of December. Much of the fruit began to drop, or was picked early to salvage it. As a result of this mechanical removal, populations of all PESTS, except a SNOW SCALE (Unaspis citri), had declined to a lower level by December 31. (p. 28).

Progress in CALIFORNIA RED SCALE eradication districts has been very favorable in San Joaquin Valley of California. It is estimated that a low incidence of this pest will occur during 1963. (p. 28).

WESTERN PINE BEETLE causing heavy losses to ponderosa pine in areas of Mendocino and Sierra National Forests, California. PINE SAWFLIES damaging pines in Florida. (p. 29).

CORRECTIONS

See page 32.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 31). Populations continue to decrease. Total of 53 cases reported during period December 30, 1962, to January 5, 1963.

Status of the European Corn Borer in 1962. (pp. 33-40). The average number of borers per 100 plants was 80 compared with 51 in 1961 in the North Central States, and 55 compared with 183 in 1961 in the Eastern States of Delaware, Maryland and Pennsylvania.

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Reports in this issue are for week ending January 11, unless otherwise indicated.

WEATHER OF THE WEEK ENDING JANUARY 14

The second severe cold wave of the 1962-63 winter overspread the Nation during January 9 to 13. It followed several days of mild temperatures west of the Appalachians. Cold weather prevailed in the Atlantic Coastal States at the beginning of the period, however, with scattered frost in colder locations of Florida's Everglades and southeast coastal farming areas, but gradually rising temperatures thereafter reached well above normal levels before turning colder on Sunday. The cold wave reduced temperatures to subzero levels east of the Cascade-Sierra Nevada Mountains to the Great Lakes and Ohio Valley, and to freezing levels or below at all southern stations from Mobile, Alabama, to the Pacific coast. This was the tenth freeze at San Diego, California, since 1871. West Yellowstone, Montana, reported -56° and Eagle, Colorado, -51° on the 12th. The lowest temperature ever recorded in Arizona, -37°, was reported at Maverick on the 13th. Lows of -30° or lower were reported in Idaho, Utah, New Mexico, Wyoming and Minnesota.

In Texas, the severe cold wave on the 11th to 14th reduced temperatures to -18° at Dalhart in the Panhandle on the 13th and to 25° in the lower Rio Grande Valley on the 13th and 14th. A few stations in the Panhandle reported their lowest temperatures on record. This freeze was not as severe as that of January 1961 in the southern part of the State. Nevertheless, crops were extremely susceptible to freezing temperatures that were continuous for 24 to 30 hours in the Winter Garden and San Antonio areas, as the freeze was preceded by near-record high remperatures for the season, ranging in the 80's and 90's. It is too early to determine the damage. Freezing throughout southern Arizona, including the Yuma area, was continuous for as much as 15 hours in the Salt River Valley, where a cooperative station reported a low of 12°. Temperatures for the week averaged above normal in the Great Lakes region by as much as 3° and east of a curved line through Charleston, South Carolina, Cairo, Illinois, and Sandusky, Ohio, by as much as 6° in North Carolina and Virginia and 12° in northern Maine. Elsewhere, weekly averages were below normal (except slightly above along the extreme southern California coast) by as much as 21° in the central Rocky Mountain region.

Precipitation was very light in nearly all of the West and the mountain snowpack remains below normal. Water hauling was reported in Utah and Nevada. Snow accompanied the severe cold wave but furnished significant moisture only locally in the Rocky Mountains and Great Plains. Blizzard conditions occurred in the west-central Great Plains on Thursday and Friday. Several inches of snow fell in the upper Mississippi Valley and Great Lakes region on Friday and Saturday and generally was drifted by high winds. Weekend snows generally were light in the Northeast, except heavy near the Great Lakes and parts of northern New England. Glaze caused slippery roads from Illinois to New England. Total moisture ranged from 0.50 to 1.00 inch or more in Alabama, Georgia, southern Louisiana, the southern half of Mississippi, the upper Ohio Valley and the Appalachian region. This moisture was very beneficial in the Southeast. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - OKLAHOMA - Generally noneconomic in all areas checked in north central, northwest, west central, southwest and south central parts of State. Occasional light counts up to 40 per linear foot found in sandy fields in Garfield and Dewey Counties, northwest. Some colonization noted in areas with higher counts, but only scattered individuals found in other areas. (Okla. Coop. Sur.).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - Only light counts of fewer than 10 per linear foot observed in north central, northwest and southwest areas. Higher counts of 60 per linear foot noted in Johnston County, south central. (Okla. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Light counts found in barley in Garfield, Blaine, Woods, Woodward and Dewey Counties. (Okla. Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum granarium) - OKLAHOMA - Counts of fewer than 10 per linear foot found in most fields checked throughout north central and northwest counties. Similar counts noted in southwest and south central areas. (Okla. Coop. Sur.).

FALL ARMYWORM (Laphygma frugiperda) - FLORIDA - Generally infesting sweet corn at Lake Harbor, Palm Beach County, January 3. (Fla. Coop. Sur.).

ARMY CUTWORM (Chorizagrotis auxiliaris) - OKLAHOMA - Generally light (0-3 per linear foot) in fields of small grain throughout north central and northwest areas, with counts as high as 16 per linear foot (averaged 10 per linear foot) noted in field in Woods County. These populations warrant constant surveillance and could cause considerable damage with onset of warm weather. (Okla. Coop. Sur.).

SUGARCANE BORER (Diatraea saccharalis) - FLORIDA - Infested one percent of sugarcane plants inspected at Canal Point, Palm Beach County, January 2. (Fla. Coop. Sur.).

ARMYWORM (Pseudaletia unipuncta) - CALIFORNIA - Larvae medium in lawns in Sacramento, Sacramento County. (Cal. Coop. Rpt.).

SAGEBRUSH DEFOLIATOR (Aroga websteri) - CALIFORNIA - Defoliating bitterbrush in Ditch Camp and East Fork Juniper Creek in Modoc National Forest. (H. R. McLean, USFS).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Heavy counts noted on overwintering alfalfa; ranged 25-50 per square foot of crown area in Kay County and up to 500 per square foot in Woodward County. Existing vegetation on alfalfa incapable of supporting populations of this size, and serious damage could result with return of warm weather. Lighter counts of 5-12 per square foot noted in Choctaw County (south central) and 2 per square foot in Jackson County (southwest). (Okla. Coop. Sur.). NEW MEXICO - Generally light in alfalfa in Chaves and Eddy Counties, with an occasional moderate to heavy population noted. Controls applied to one field of alfalfa in Artesia area, Eddy County. (N. M. Coop. Rpt.).

PEA APHID (Macrosiphum pisi) - OKLAHOMA - Light on alfalfa in north central, northwest, southwest and southeast areas. Also light on winter peas in Garfield County. (Okla. Coop. Sur.). NEW MEXICO - Light in most alfalfa fields checked in Eddy and Chaves Counties, with an occasional moderately heavy, spotted infestation. Unusually light in Dona Ana County alfalfa. (N. M. Coop. Rpt.).

ALFALFA WEEVIL (Hypera postica) - UTAH - Adults numerous in juniper and spruce duff in areas about Logan and Hyde Park, Cache County. Winter dry and generally moderate to January 8. (Knowlton).

SEED-CORN MAGGOT (*Hylemya cilicrura*) - TEXAS - Probably this species, infesting several flax farms in local areas of Bexar County involving considerable acreage. Larvae reducing stands by cutting off plants below ground. (Singleton).

FRUIT INSECTS

MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*) - FLORIDA - Single adult trapped in Lauderdale-by-the-Sea, Broward County, January 11; larvae found in fruit January 12, four-tenths of mile from adult catch; additional larvae found on adjacent property January 13. This area approximately 2.5 miles southeast of November 2, 1962, find. New spray area will consist of 2,900 acres; first application scheduled for January 16. Additional traps placed in service in this area, and additional personnel making fruit inspections. (PPC).

Citrus Insect Situation and Outlook in Florida - End of December 1962

Special Comment - Except for Indian River district, severe cold of December 12, 13 and 14 caused majority of trees in survey groves to drop all or nearly all leaves during last few days of December. Much of the fruit began to drop, or was picked early to salvage it. As result of this mechanical removal, populations of all pests except a SNOW SCALE (*Unaspis citri*) had declined to lower level by December 31. The unusual and widespread change in tree condition has so disrupted sampling, that other methods will have to be used temporarily. Data for next few months may not be compared to prior 12-year continuous record of populations. However, pest conditions will continue to be given by narrative report.

Outlook - In groves with little cold damage, CITRUS RED MITE (*Panonychus citri*), TEXAS CITRUS MITE (*Eutetranychus banksi*) and CITRUS RUST MITE (*Phyllocoptruta oleivora*) will decline only slightly from pre-freeze levels. A few groves expected to show increases. SIX-SPOTTED MITE (*Eotetranychus sexmaculatus*) will gradually increase from current low level in those groves with past history of infestation. Scale populations not expected to change notably in next 2 months. Major insect parasites of scales appear to have survived cold. In completely defoliated groves, loss of leaves greatly reduced but did not eliminate populations of most pest species. Where mites were present on leaves before freeze, few mites and eggs can be found on terminal twigs. Some mites have been noted on new flush. RUST MITES, SCALES and MEALYBUGS also present on twigs and fruit. SCALE PARASITES and predatory YELLOW MITES also noted.

Defoliated groves began to show new pinpoint growth last few days of December; fate of this new flush uncertain. Some is coming from damaged wood and will soon wither; it is also highly susceptible to injury from frosts, dry winds and brief periods of subfreezing weather that are almost certain to occur during next 2 months. An off-season flush of this type is likely to be weak and have abnormal appearance simulating various nutritional deficiency patterns. Where this flush develops to point that leaves reach one-half inch in width, it should be protected from melanose and mites and aphids later in season. A healthy flush will retard further twig dieback and help prevent sunscald of larger wood. (W. A. Simanton (Citrus Expt. Sta., Lake Alfred)).

CALIFORNIA RED SCALE (*Aonidiella aurantii*) - CALIFORNIA - Progress in eradication districts has been very favorable in San Joaquin Valley. There are 5 eradication districts in Kern, Tulare and Fresno Counties, encompassing approximately 80,000 acres and including all citrus acreage in these counties. During 3 years districts have been in operation, eradicative treatment has been applied to approximately 2,850 acres of citrus. It is estimated that a low incidence of this pest will occur during 1963. Control program now in inspection and preventive stages, but constant inspection and rapid action on new infestations will be necessary, as infestations exist in dooryard plants in the general areas. (R. E. Butcher, Central Calif. Citrus Pest Control Agency).

BROWN SOFT SCALE (*Coccus hesperidum*) - CALIFORNIA - Heavy on local citrus trees in Newcastle, Placer County. (Cal. Coop. Rpt.).

A WHITEFLY (*Aleyrodes spiraeoides*) - CALIFORNIA - Light to medium populations developed on leaves and fruit of citrus in Redlands, San Bernardino County. (Cal. Coop. Rpt.).

OBSCURE SCALE (*Chrysomphalus obscurus*) - ARKANSAS - Has caused some oncern on pecans in eastern area. Several samples have been submitted for determination. (Ark. Ins. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

WESTERN PINE BEETLE (*Dendroctonus brevicomis*) - CALIFORNIA - Causing heavy loss of ponderosa pine on 250 to 500-acre stand in Youngs Corral in Stonyford District of Mendocino National Forest. (M. L. Lieurance, USFS). Infestations occurring since September in 3 areas in Sierra National Forest continue to take heavy toll of ponderosa pines; 19,000 acres involved in Stevenson Creek, Jose Basin and Big Creek areas. (J. Mount, USFS). Beetles heavy in limited acreage in Texas Creek area of El Dorado National Forest; group killing of 15 or more sugar pines involved. (L. P. Kroner, USFS). Single trees and groups up to 24 ponderosa pines killed in 500-acre stand in Iron Creek area of Sierra National Forest. (M. B. Meadows, USFS).

A PINE REPRODUCTION WEEVIL (*Cylindrocopturus eatoni*) - CALIFORNIA - Results of earlier infestation in Jeffrey pine now causing trees planted during 1952 to die in Porkypine Burn area in Modoc National Forest. (K. Smith, USFS). Scattered broods found in ponderosa pines in Kassabaum Plantation (approximately 300 acres) in Stanislaus National Forest. (R. A. Giley, USFS). Over 100 ponderosa pines killed in 15-acre stand in Basin Creek Plantation in Stanislaus National Forest in Tuolumne County. (B. Sweatt, USFS).

CEDAR BARK BEETLES (*Phloeosinus* spp.) - CALIFORNIA - Incense-cedar trees in 3,000-acre stand in Blue Ridge area, Sequoia National Forest, show about 80-90 percent dead or half-dead. Drought had been severe in area and probably contributed to weakening of trees originally. (D. E. Hosler, USFS).

NANTUCKET PINE TIP MOTH (*Rhyacionia frustrana*) - NORTH CAROLINA - Larvae and several pupae, probably this species, taken from injured apical tips and buds of 4-8 year old pine trees at Delco, Columbus County, December 26; infesting approximately 60 percent of trees in 2-acre planting. (H. G. Johnson).

CONIFER SAWFLIES (*Neodiprion* spp.) - FLORIDA - *N. lecontei* reported on loblolly pine (*Pinus taeda*) near Silver Springs, Marion County (Jan. 3). Few scattered groups of fourth and fifth instar *N. lecontei* also present in woodland heavily infested by *N. excitans*. Few, scattered infestations of *N. compar* reported on loblolly pine near Silver Springs, in association with extensive infestation of *N. excitans*. What is probably *N. lecontei* severe on longleaf pine (*Pinus palustris*) on south side of U. S. Highway 90 in Santa Rosa County, 8 miles east of Milton. General defoliation of longleaf pine by repeated generations killed some saplings. Eggs and newly hatched larvae present. *Neodiprion* sp. caused defoliation in top portion of crowns of slash pine (*Pinus elliottii*) at Gainesville, Alachua County (Dec. 23). (Hetrick).

CARPENTERWORM (*Prionoxystus robiniae*) - CALIFORNIA - Larvae infesting coast live oak in San Jose, Santa Clara County. Several instances have been currently reported; apparently conditions have been favorable during past year for increase in this species. Fruit and ornamental trees have been attacked. (Cal. Coop. Rpt.).

APHIDS - CALIFORNIA - Rhopalosiphum rufiabdominalis medium on Strelitzia sp. in Carlsbad, San Diego County. Adults of Lachnus salignus heavy on twigs and bark of dormant trees (probably willow) in Riverside, Riverside County. (Cal. Coop. Rpt.). OKLAHOMA - Light populations of Cinara tujafilina active in Ardmore area, Carter County. (Okla. Coop. Sur.). FLORIDA - Aphis gossypii light on hibiscus at Plymouth, Orange County (Nov. 28) and at De Bary, Volusia County (Dec. 11); ranged moderate to severe on Tabebuia sp. at Windermere, Orange County (Nov. 30). Cerataphis variabilis severely infested Thrinax microcarpa at Miami, Dade County (Nov. 28), and Cinara tujafilina was severe on Thuja orientalis at Homestead in same county (Dec. 17). Hysteroneura setariae ranged moderate to severe on apricot at Groveland, Lake County (Dec. 1). (Fla. Coop. Sur.).

A MINING SCALE (Pseudaonidia clavigera) - FLORIDA - Second check of insecticide investigation plots in St. Petersburg made during December, 4 weeks after second spraying. Count made one week after freeze of December 12-13 indicated no live adults; however, live nymphs were present. Few eggs observed in dead females, but did not appear normal when examined. Samples of infested Viburnum suspensum collected on December 19 were re-examined 21 days later on January 9; live nymphs found, but no eggs. Fumigation of infested plant material with methyl bromide in infested nurseries now underway; results will be reported at later date. (Dekle, Miller; Fla. Coop. Sur.).

COCCIDS - FLORIDA - Phenacaspis cockerelli moderate on Strelitzia reginae at Bradenton, Manatee County (Dec. 21). (Fla. Coop. Sur.). OKLAHOMA - Unaspis euonymi populations range light to heavy throughout Ardmore, Carter County. (Okla. Coop. Sur.). CALIFORNIA - Pseudococcus obscurus medium in crowns and on trunks of gardenia plants in Sacramento, Sacramento County. Trionymus diminutus medium to heavy on Phormium sp. nursery stock in Fremont, Alameda County. (Cal. Coop. Rpt.).

A PSYLLID (Psylla uncatoides) - CALIFORNIA - Adults heavy on acacia trees in Oceanside, San Diego County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Low populations evident on winter vegetation in San Joaquin Valley; cooler weather has inhibited growth of winter annuals. Females checked at this time in northern area of State contained no eggs. In Imperial Valley, Imperial County, check of native annuals showed species present; checks of female leafhoppers showed 3-6 eggs present. (Cal. Coop. Rpt.).

THRIPS - NEW MEXICO - Populations in Dona Ana County onion fields remain light. (N. M. Coop. Rpt.).

TURNIP APHID (Rhopalosiphum pseudobrassicae) - FLORIDA - Moderate on mustard greens at Homestead, Dade County, December 11, 1962. (Fla. Coop. Sur.).

BEAN APHID (Aphis fabae) - CALIFORNIA - Nymphs and adults medium on rhubarb plantings in Pico-Rivera area, Los Angeles County. (Cal. Coop. Rpt.).

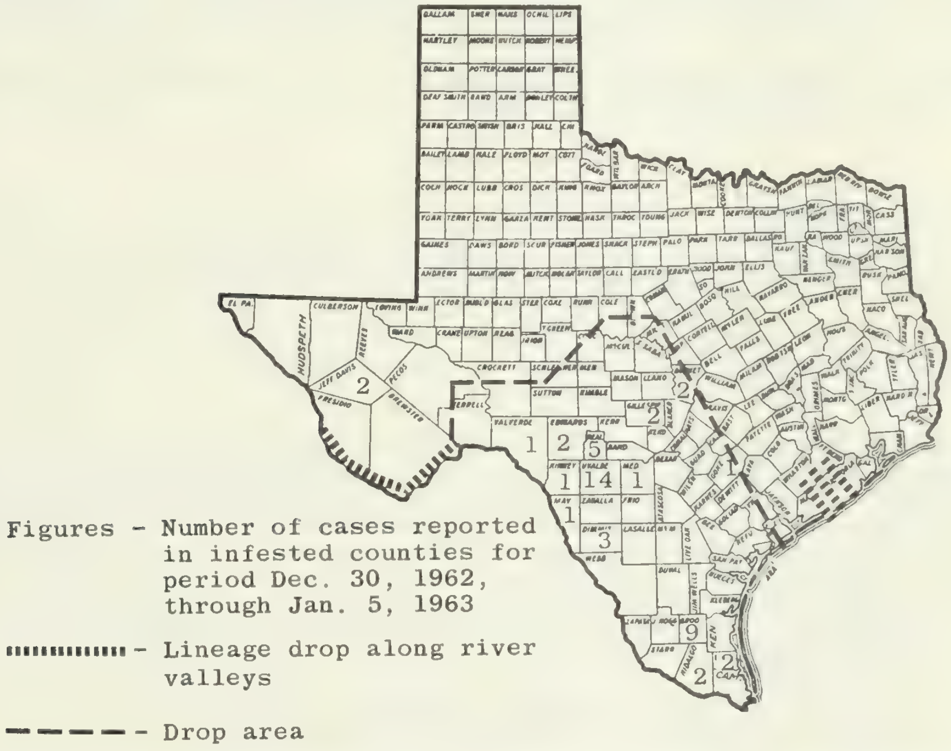
SPIDER MITES (Tetranychus spp.) - MARYLAND - Dormant mites and eggs heavy on strawberry planting at Fairland, Montgomery County; up to 25 per leaf. (U. Md., Ent. Dept.).

INSECTS AFFECTING MAN AND ANIMALS

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

On several days during the previous period (December 23-29), adverse weather conditions prevented release of all sterile flies produced. When these flies were added to those produced during the current period (December 30, 1962, through January 5, 1963), it allowed for the release of the largest number of sterile flies since the beginning of eradication efforts. Although screw-worm populations have continued to decrease, infestations are still being disclosed in the sheep and goat country on the Edwards Plateau. A small population continues along river valleys near Houston. Fly release has been extended to this area to eliminate infestations. The barrier is being gradually lengthened along the Rio Grande Valley, northwest of Presido.

A total of 102,453,850 sterile flies was released during the period December 30, 1962, through January 5, 1963, and a total of 53 screw-worm cases was reported during the same period. (Anim. Dis. Erad. Div.).



Figures - Number of cases reported in infested counties for period Dec. 30, 1962, through Jan. 5, 1963

▮▮▮▮▮▮▮▮▮▮▮▮ - Lineage drop along river valleys

— — — — - Drop area

COMMON CATTLE GRUB (Hypoderma lineatum) - ARKANSAS - Total of 866 grubs counted on 89 untreated animals checked in Franklin County, northwest. Ranged 0-119 and averaged 9.7 per animal. (Ark. Ins. Sur.). OKLAHOMA - Ranged 0-39 per head (averaged 12) on long yearling steers in Stillwater area, Payne County. (Okla. Coop. Sur.).

SHEEP KED (Melophagus ovinus) - UTAH - Numbers moderate on farm flock near Ephraim, Sanpete County. (Knowlton).

SHEEP BITING LOUSE (Bovicola ovis) - WISCONSIN - An apparently low population of this pest revealed by examination of sheep in Dodge, Dunn, Grant, Sheboygan and Taylor Counties. (Wis. Ins. Sur.).

CATTLE LICE - OKLAHOMA - *Linognathus vituli* averaged 0.5 per head on cattle in Stillwater area, Payne County. Activity of other species reported from Cotton, Stephens, Ottawa, Mayes, Osage and Tulsa Counties. (Okla. Coop. Sur.). UTAH - Unspecified species causing cattle to rub in Mendon-Petersboro area, Cache County. Unspecified species also appearing in numbers on calves in some herds in Logan-North Logan area of Cache County, and in western Box Elder County. (Knowlton).

BROWN DOG TICK (*Rhipicephalus sanguineus*) - MARYLAND - A nuisance problem in basement of home in Adelphi, Prince Georges County. (U. Md., Ent. Dept.).

A BROWN SPIDER (*Loxosceles reclusa*) - OKLAHOMA - Heavy populations observed in basements of several major buildings in Stillwater area, Payne County. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

A WEEVIL (*Hypera brunneipennis*) - CALIFORNIA - Medium numbers invading residence in Ventura, Ventura County. Adults have become a nuisance in this respect since species has extended range from desert into coastal areas. (Cal. Coop. Rpt.).

AN ASSASSIN BUG (*Zelus renardi*) - CALIFORNIA - Medium population invading residence in Talmadge, Mendocino County. (Cal. Coop. Rpt.).

MISCELLANEOUS INSECTS

A PSYCHID MOTH (*Apterona crenulella*) - UTAH - Cases extremely numerous on fruit and shade trees and shrubs in area southeast of Salt Lake City, Salt Lake County. (Knowlton).

A SCARAB (*Cotinis texana*) - CALIFORNIA - Larvae heavy in soil locally in Riverside, Riverside County. (Cal. Coop. Rpt.).

CITRUS WHITEFLY (*Dialeurodes citri*) - CALIFORNIA - Survey continues, with decrease in number of infested blocks becoming evident. Over 200 city blocks infested in area approximately 4 by 8 miles in scope. Due to irregular limits of infestation, some 400 blocks will require treatment. In addition to normally encountered citrus, gardenia, *Choisya* sp. and privet hosts, nymphs have been found on *Camellia* spp., *Myrtus* spp., *Viburnum* spp., *Ilex* spp. and *Hedera* spp. Spray treatment will begin January 10, weather permitting. Infestations have occurred on various locations over State since early 1900's, with approximately 30 such infestations successfully eradicated over the years. (Cal. Coop. Rpt.).

A SUBTERRANEAN TERMITE (*Reticulitermes virginicus*) - FLORIDA - Winged reproductive forms reported in flight during mid-day on December 23. (Hetrick).

AN EARTHWORM MITE (*Fuscuropoda agitans*) - FLORIDA - Infested earthworm bed at Lady Lake, Lake County (Dec. 31). (Sobers; Fla. Coop. Sur.).

A PHYTOSEIID MITE (*Typhlodromus jackmickleyi*) - FLORIDA - Preying on eggs of *Gnorimoschema operculella* at Gainesville, Alachua County (Nov. 12).(Fla. Coop. Sur.)

CORRECTIONS

CEIR 13(2):21 - Norma dietsiana (a leaf tier) should read Norma dietziana.

STATUS OF THE EUROPEAN CORN BORER IN 1962

Survey Data Provided by State Agricultural Agencies,
Compiled and Summarized by Survey and Detection Operations,
Plant Pest Control Division, Agricultural Research Service,
United States Department of Agriculture

Cooperating agricultural agencies in 16 states reported on surveys conducted in their states to determine the abundance and distribution of European corn borer (Ostrinia nubilalis (Hubner)) in 1962. All survey data, summaries or records of field observations were submitted to Survey and Detection Operations, Plant Pest Control Division office in Washington, D. C., for final processing. After processing, the material was reviewed by personnel of the Entomology Research Division, ARS. This is a compilation of the information submitted by the State agencies.

Distribution

Further spread of the European corn borer in 1962 appeared to be very limited. Only 4 new counties were reported from the States of North Carolina and Georgia in 1962 compared with 15 new counties in 1961, 6 in 1960 and 13 in 1959. Special surveys were conducted during the fall in New Mexico and in northeast Texas, with negative results. In addition, Plant Pest Control inspectors in the Southern Plant Pest Control Region made spot checks for this borer in counties not known to be infested during the fall.

The new counties found infested in 1962 were Davie, Rowan and Stanly in North Carolina, and Bibb in Georgia.

Abundance

The 1962 European corn borer survey was conducted during the late summer and fall of the year. The survey is designed to measure the fall population of European corn borer larvae. The participating states were encouraged to time the surveys to include a high percentage of mature larvae whenever possible. In all cases, except for some minor differences in compiling data, the accepted survey methods were used. The survey was continued on a district basis whenever possible in 1962. A district is usually a group of counties within a state, in most cases being based on Crop Reporting Districts.

Population levels of the European corn borer were generally a little higher in 1962 than in 1961 in the North Central States. Substantial increases in population were noted in Nebraska, and to a lesser extent in parts of Illinois and South Dakota. Generally, decreased populations were reported in Wisconsin and Minnesota, although some increase was noted in the northwest and west central districts of Minnesota. Populations remained generally low in Ohio, Indiana, Kansas and Missouri, but District IX of Missouri had a sharp increase in numbers which increased the overall average in that State. The highest counts in Iowa were in Districts I, II, IV, V, XI and XII, but none exceeded 141 borers per 100 plants and the overall average was lower than in 1961. The highest counts (borers per 100 plants) reported this year in the North Central States were in the northeast, central, eastern and southern districts of Nebraska (294, 284, 280 and 248); southeast and east central districts of South Dakota (294 and 207); North Dakota (285); and District IX of Missouri (263).

In the Eastern States, populations were considerably reduced in Delaware and on the Eastern Shore of Maryland, and generally lower in the remainder of Maryland and Pennsylvania. The prolonged drought which occurred this past year in the Northeast was believed to be responsible for these reduced populations. The survey in Arkansas indicated that populations were about the same as in 1961.

For all states reporting, based on comparable districts or counties surveyed, the average number of borers per 100 plants decreased from 78 to 71 in 1962. The average for the North Central States was 80 in 1962 compared with 51 in 1961, and the average for the Eastern States of Delaware, Maryland and Pennsylvania was 55 compared with 183 in 1961. The population counts for Michigan and North Dakota were not included in the United States average since they were not comparable with the 1961 survey.

A summary of the 1961 and 1962 surveys is shown on Table 1 by states. State summaries are shown on Table 2. Accompanying maps show districts surveyed, approximate population levels and counties where the borer has been recorded.

Table 1. Summary by States of European Corn Borer Abundance in Corn, Fall of 1962, Compared with Data for 1961

State	1961			1962			Comparable Districts or Counties Surveyed Both Years		
	No. of Districts Surveyed	Average No. of Borers Per 100 Plants	No. of Counties Surveyed	No. of Districts Surveyed	Average No. of Borers Per 100 Plants	No. of Counties Surveyed	Number	Borers Per 100 Plants	
								1961	1962
Eastern									
Delaware	1	376	3	1	68	3	1	376	68
Maryland	3	115	21	3	59	21	3	115	59
Pennsylvania	8	57	42	9	35	49	8	57	38
Total	12		66	13		73			
Average 1/								183	55
North Central									
Illinois	7	57	37	7	102	39	7	57	102
Indiana	12	27	92	12	29	92	12	27	29
Iowa	12	100	99	12	88	99	12	100	88
Kansas	3	25	24	3	43	25	3	25	43
Minnesota	7	70	69	7	67	69	7	70	67
Missouri	8	38	41	8	72	37	8	38	72
Nebraska	7	56	72	7	201	72	7	56	201
Ohio	5	13	33	5	23	33	5	13	23
South Dakota	6	103	42	6	160	44	6	103	160
Wisconsin	9	22	58	9	17	58	9	22	17
Total	78		567	76		568			
Average 1/								51	80
Southern									
Arkansas	4	27	19	4	24	19	4	27	24
United States									
Total	92		652	93		660			
Average 1/								78	71
States Surveyed But Not Included in U. S. Average									
Michigan	1	7	19	1	49	9			
North Dakota	1	262	2	1	285	5			

1/Weighted averages based on districts surveyed.

Table 2 - European Corn Borer Abundance in Corn, Fall of 1962, Compared with Data for 1961

State	Average Number of Borers Per 100 Plants	
	1961	1962
Arkansas (Ark. Ins. Sur.)		
Northwest	12	20
North Central	20	11
Northeast	44	44
East Central	32	21
Average	27	24
	(23) 1/	(25) 1/
Delaware (Agr. Expt. Sta.)		
Kent	523	77
New Castle	205	51
Sussex	399	76
Average	376	68
Illinois (Natural History Survey, Ext. Ser.)		
Northwest	81	150
Northeast	70	66
West	59	165
Central	64	106
East	64	96
West-southwest	43	82
East-southeast	20	25
Average	57	102
Indiana (Ext. Ser., Expt. Sta.)		
North-northwest	60	89
North-northcentral	29	28
North-northeast	5	14
Northwest	11	32
North Central	10	16
Northeast	10	21
Southwest	6	32
South Central	20	24
Southeast	8	27
South-southwest	52	30
South-southcentral	41	30
South-southeast	72	7
Average	27	29

State	Average Number of Borers Per 100 Plants	
	1961	1962
Iowa (State Dept. of Agr.; Ext. Ser.; Ent. Dept., Iowa State Univ.; ENT, ARS, USDA)		
District I	66	100
District II	68	104
District III	78	25
District IV	144	141
District V	143	112
District VI	82	41
District VII	199	91
District VIII	188	86
District IX	62	76
District X	79	25
District XI	47	127
District XII	42	126
Average	100	88
		(89) 1/
Kansas (Ins. Sur.)		
Northeast	27	45
North Central	5	9
East Central	43	74
Average	25	43
Maryland (Agr. Ext. Ser., Ins. Sur.)		
Eastern Shore	186	64
Southern area	83	58
Western and Central areas	75	54
Average	115	59
Michigan (Ext. Ser.)		
Surveyed Counties	7	49
(Survey in 1961 conducted in 19 counties; survey in 1962 conducted in 9 counties)		

1/ Average based on all samples rather than district average.

Table 2 - (Cont'd)

State	Average Number of Borers Per 100 Plants	
	1961	1962
Minnesota (State Dept. of Agr.)		
Northwest	86	90
West Central	112	184
Central	52	30
East Central	17	17
Southwest	115	92
South Central	66	34
Southeast	43	20
Average	70	67
Missouri (Ext. Ser., Ins. Sur.)		
District I	59	59
District II	37	47
District III	23	32
District IV	28	30
District V	45	43
District VI	32	65
District VII	18	35
District IX	69	263
Average	38	72
Nebraska (Agr. Expt. Sta., Ext. Ser., Ins. Sur.)		
North	47	182
Northeast	87	294
Central	51	284
East	137	280
South	42	248
Southeast	25	105
Southwest	0	16
Average	56	201
North Dakota (State Dept. of Agr.)		
Average 1/	262	285
Ohio (Expt. Sta.; Ext. Ser.; ARS, USDA)		
Northwest	28	43
West Central	9	16
Central	4	2
Southwest	7	28
Northeast	17	25
Average	13	23
	(15) 1/	(26) 1/
Pennsylvania (State Dept. of Agr.)		
Northwest	27	42
West Central	38	23
Southwest	41	30
North Central (4 counties)	-	7
Central	77	41
South Central	40	22
Northeast	19	5
East Central	51	30
Southeast	161	111
Average	57	35
Average comparable districts (8)	57	38

1/ 2 counties surveyed in 1961; 5 in 1962.

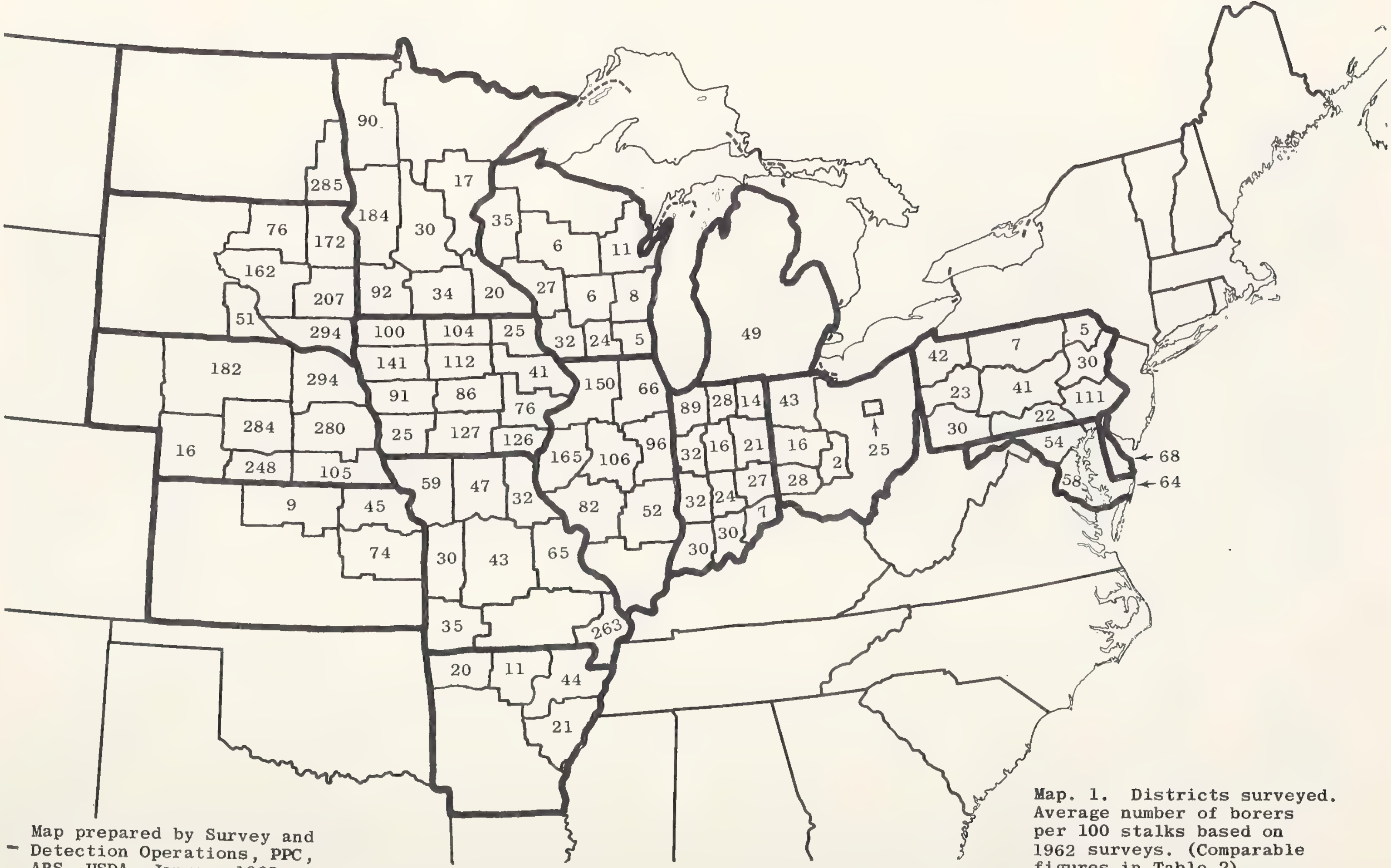
2/ Average based on all samples rather than district average.

Table 2 - (Cont'd)

	Average Number of Borers Per 100 Plants			Average Number of Borers Per 100 Plants	
State	1961	1962	State	1961	1962
South Dakota (Agr. Expt. Sta., Ext. Ser.)			Wisconsin (State Dept. of Agr.)		
			Northwest	21	35
North Central	24	76	North Central	8	6
Northeast	66	172	West Central	44	27
Central	88	162	Central	9	6
East Central	150	207	Southwest	25	32
Southeast	230	294	South Central	39	24
South Central	59	51	Southeast	24	5
			East Central	18	8
Average	103	160	Northeast	22	11
			Average	22	17

EUROPEAN CORN BORER ABUNDANCE

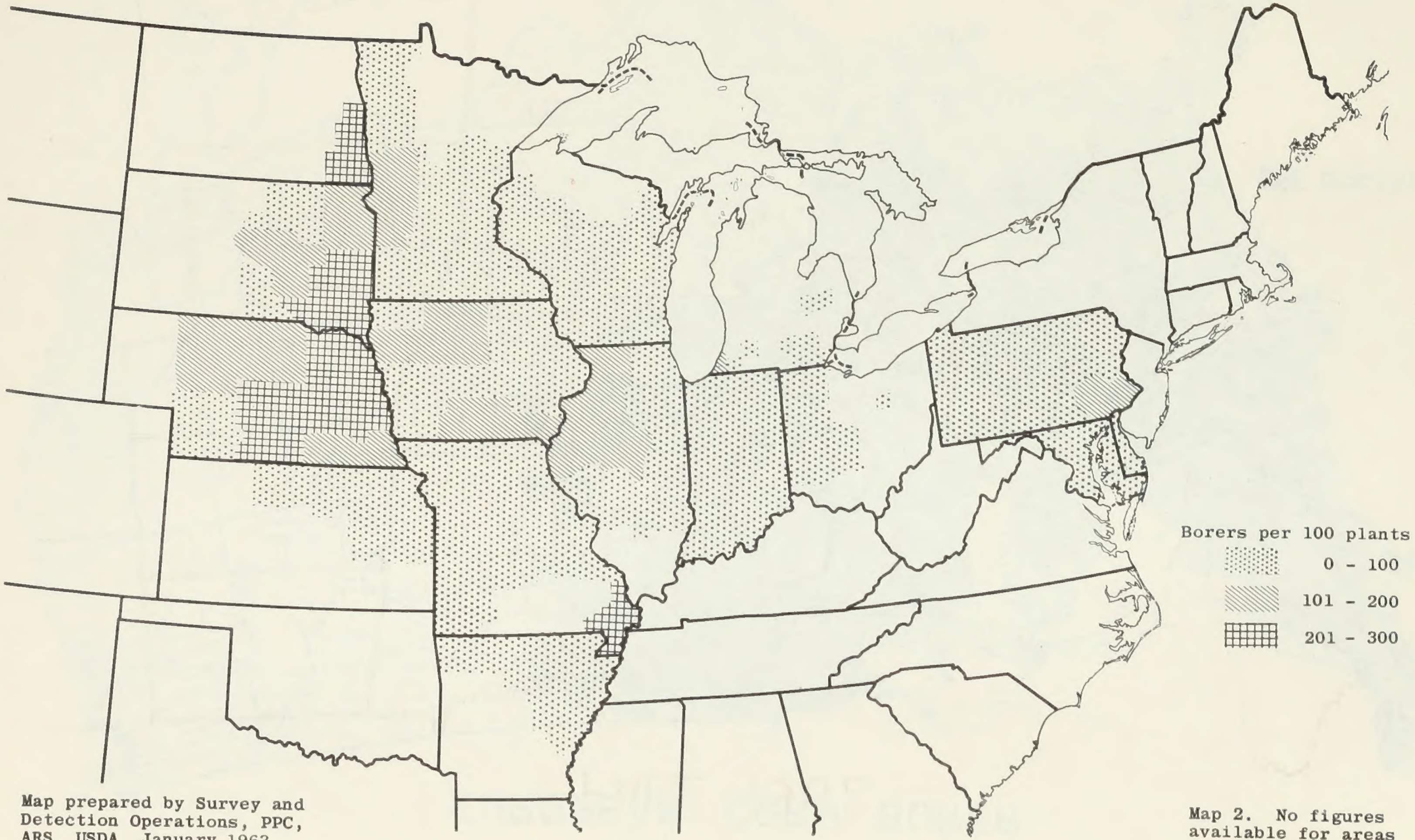
FALL 1962



Map prepared by Survey and Detection Operations, PPC, ARS, USDA, January 1963

Map. 1. Districts surveyed. Average number of borers per 100 stalks based on 1962 surveys. (Comparable figures in Table 2).

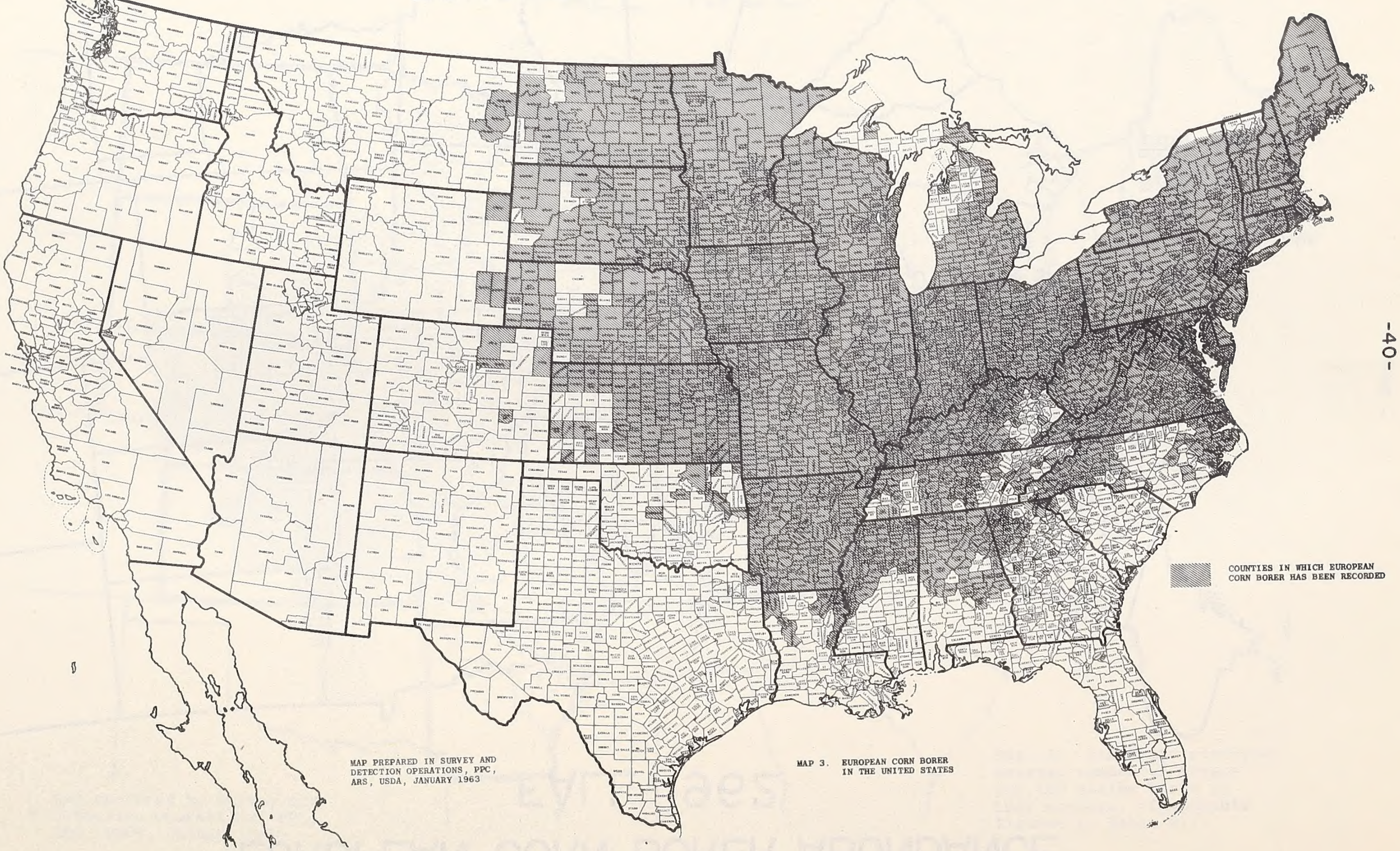
EUROPEAN CORN BORER ABUNDANCE
FALL 1962



Map prepared by Survey and
Detection Operations, PPC,
ARS, USDA, January 1963.

Map 2. No figures
available for areas
not shaded.

EUROPEAN CORN BORER



▨ COUNTIES IN WHICH EUROPEAN CORN BORER HAS BEEN RECORDED

MAP PREPARED IN SURVEY AND
DETECTION OPERATIONS, PPC,
ARS, USDA, JANUARY 1963

MAP 3. EUROPEAN CORN BORER IN THE UNITED STATES

UNITED STATES DEPARTMENT OF AGRICULTURE

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